HC CARGO®

160783

Automotive components since 1963

SUPER 7" 3+1 REAR VIEW CAMERA AND MULTIMEDIA KIT

GB

USER MANUAL

Vedpak 120UK_Version 2_150909

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PACKAGE CONTENTS:

1. 7" LED monitor 16:9.
2. Sun-hood.
3. Mounting brackets.
4. Mounting parts.
5. Control cable.
6. Camera w/ infrared LED's and built-in microphone.
7. 20 mtr. camera cable.
8. User manual.

CAUTION:

Do not add any parts or use any accessories which are not provided from the manufacturer.
Do not adjust system settings when driving to prevent traffic accidents.
Do not add pressure to the screen.
Do not sprinkle any liquid to clean the monitor. If you need to clean it, please use a LCD cleaning cloth.

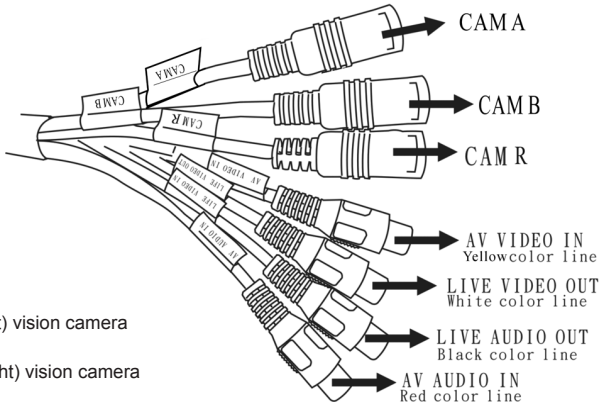
FEATURES:

Supports up to 3 CCD Camera inputs (Mini DIN Connector).
Extra RCA input for multimedia (VCD, DVD, Game device).
Provide 1 Video / 1 Audio signal output.
Auto detection for NTSC / PAL System.
Signal Trigger for Cam A / Cam B / Cam R / AV View.
Auto brightness adjustment by CDS.
Back mirror status selection via OSD.
Video output select via OSD (Back / Door / AV).
Power latching.
Switch timer (2-100 sec.) Step selection via OSD (Cam A / Cam B / Cam R / AV View).

INSTALLATION OF MONITOR:

1. Check the package and make sure all parts are included.
2. Clip the sun-hood on to the monitor and make sure it is installed properly.
3. Install the monitor on to the bracket.
4. Adjust the monitor to an appropriate / comfortable viewing angle before tightening the screws.
5. Connect the control cable to the power socket which is located at the rear side of the monitor.
6. Monitor installation is now completed. Each control cable wire is attached with a sticker to indicate its signal function.

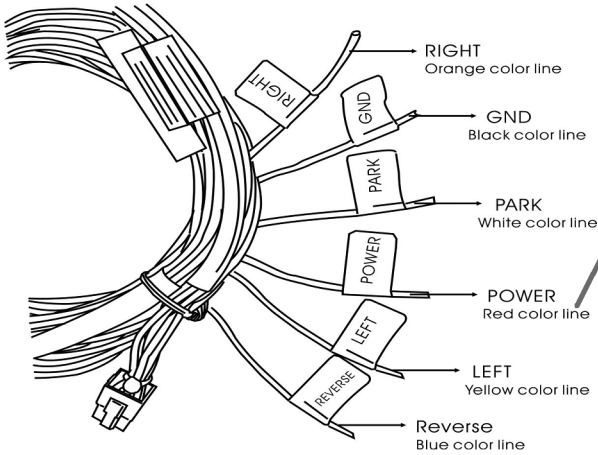
SIGNAL CABLE DESCRIPTION:

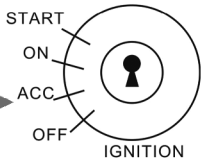


1. **CAM A (Mini din)**
   Fixed for Direction Light (Left Turn Light) vision camera
2. **CAM B (Mini din)**
   Fixed for Direction Light (Right Turn Light) vision camera
3. **CAM R (Mini din)**
   Fixed for rear vision camera
4. LIVE VIDEO OUT (RCA - White wire).
   On screen audio loop out (for recording, second monitor or other device).
5. LIVE AUDIO OUT (RCA - Black wire).
   On screen audio loop out (for recording, second monitor or other device).
6. AV VIDEO IN (RCA - Yellow wire).
   Connection for any Video signal (such as DVD, VCD, Game)
7. AV AUDIO IN (RCA - Red wire).
   Connection for any Audio signal (such as DVD, VCD, Game)

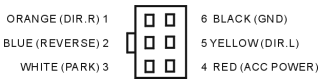
CONTROL CABLE DESCRIPTION:

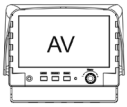
Cable configuration



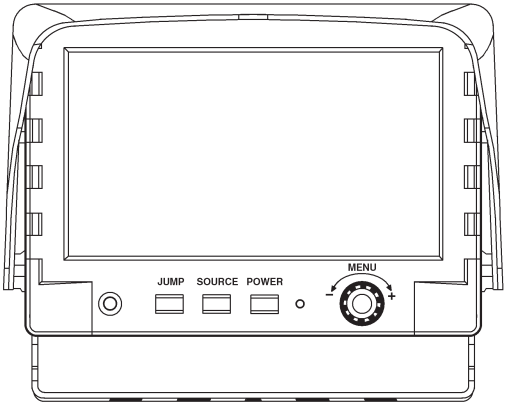


Don't connect the red wire (power wire) of this product directly to the battery. Connect the red wire of this product to the ACC of the ignition key switch. Failure to do so may result in permanent damage of the product.



WIRE COLOUR	FUNCTION	REMARKS	ON SCREEN VIEW
Red	Acc power (DC 9.6-DC 32 V)		
Black	GND		
White	Parking Control	Active GND Allows AV or extra camera	
Yellow	Cam A	Active Power Level. Connect to Direction Light (Left turn Light)	
Orange	Cam B	Active Power Level. Connect to Direction Light (Right Turn Light)	
Blue	Reverse Control Cam R	Active Power Level Connect to Reverse	

FRONT PANEL CONTROL:



POWER: Press the POWER button to activate the monitor or to keep the monitor under stand by mode.

SOURCE: Press this button to select image between
CAM A → CAM B →CAM R → CAM A……..
With activated hand break, press this button to select image sequence
AV → CAM A → CAM B →CAM R → AV……..

JUMP: Press this button, it can switch CAM A, CAM B, CAM R recurrently.
With activated hand break and check the Jump AV option is ON, press this button to select image sequence
AV → CAM A → CAM B →CAM R → AV……..

MENU: This encoder switch provides the following function:

1. Activate OSD menu.
   Press the switch to activate the OSD menu.
2. Enter-function:
   Press the encode switch to act as "Enter": Functions under the OSD menu.
3. Volume value:
   Exit the OSD menu: user can turn this switch left or right to adjust the volume value.

OSD MENU:

1. Press the MENU button to enter the OSD Menu.

2. Turn the MENU button left or right to select the setting you wish to proceed.
   The colour of the content will turn yellow to identify your selection.

3. Press the MENU button again until the colour of the value turns yellow.
   Turn the MENU button left or right to adjust your setting value.
4. Press menu button again to return to OSD MENU.

Enter to main menu:

SCREEN MENU:
This menu set up contains different setting for the TFT LCD.

Brightness:
Provide adjustment for the overall picture shade and brightness of the TFT display.
Setting value from 0 ~ 100. Default value 70.

Contrast:
Provide adjustment for the contrast level of the TFT display between the light and dark area.
Setting value from 0 ~ 100. Default value 50.

Saturation:
Provide adjustment for the colour of the TFT display between the light and dark area.
Setting value from 0 ~ 100. Default value 50.

Hue:
Provide adjustment for the picture TINT between light and dark area.
Setting value from 0 ~ 100. Default value 50. (Only in NTSC system available).

Sharpness:
Provide adjustment for the edge contrast (acutance) level of TFT display.
Setting value from 0 ~ 100. Default value is 50.

Return:
Return to OSD menu selection screen.

DISPLAY Menu
This menu set up contains the on screen identification and the activation of the distance gauge.

Cam Name
Select “ON” to show the source of video input title on screen or “OFF” to keep it invisible. Default value is ON.

Distance Gauge
Set the distance gauge “ON” to show the distance gauge on screen while reversing or “OFF” to deactivate. Default value is ON.
(This “DISTANCE GAUGE” is for user’s reference only)

Auto Day&Night
Select “ON” to activate the auto day & night function or “OFF” to deactivate it. Default value is OFF.

OSD Lock
This function provides protection when an unauthorized person tries to access the OSD settings. Press JUMP and Source key simultaneously for over 5 seconds to unlock. Default value is OFF.

Users must turn on LCD in order to run unlock process. All function buttons are still working during OSD Menu lock up period.

Return
Return to OSD menu selection screen.

CAMERA Menu

This menu set up contains the Camera and Jump setting.

CAM A MIRROR
Select “ON” to activate the mirror function for CAM A “OFF” for a normal image.
Default value is OFF.

CAM B MIRROR
Select “ON” to activate the mirror function for CAM B or “OFF” for a normal image.
Default value is OFF.

CAM R MIRROR
Select “ON” to activate the mirror function for CAM R or “OFF” for a normal image.
Default value is ON.

Jump Dwell
Setting Jump dwell value from 2~100.
Default value is “3”.

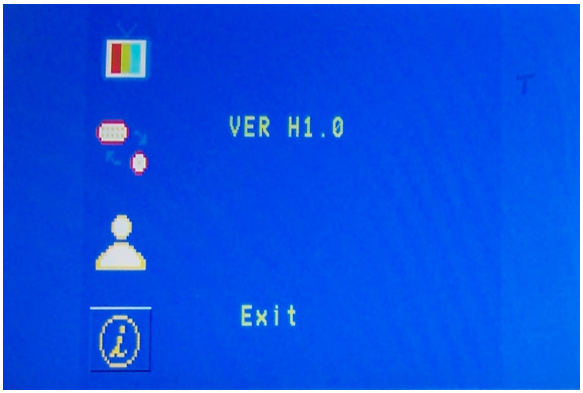
Jump AV
Jump function included AV channel or not. If setting is ON but system does not work, you should check the PARK trigger status. Default value is “ON”.

RECALL
Recall factory default.

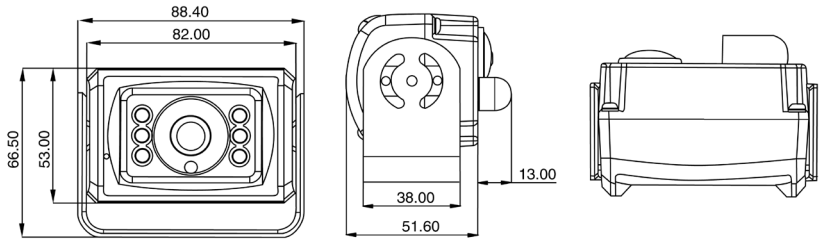
Return
Return to OSD menu selection screen.

Information

This menu set up contains the Exit function and shows the firmware version.



INSTALLATION FOR COLOUR CAMERA



INSTALLATION

With standard mounting bracket and fasteners included in the package, the camera can be mounted firmly at the required position of the vehicle.

1. Install the camera on the mounted camera bracket using proper fasteners (included in the package). Decide direction for the camera to view when installing the camera on the bracket.
2. Run the built-in camera cable connection (1.5 mtr.) to monitor with camera extension cable (20 mtr. standard length included in the package) into the vehicle body (make a 13 mm. (½") hole on the vehicle body if necessary). Connect the cable connectors firmly inside the vehicle with aid of a cable-tie, and use weather sealer strip to help protect the cable connection.
   Seal the hole properly with weather sealant where the cable runs through vehicle body
3. For maximum weather protection, the cable connection is always recommended NOT to be left outside the vehicle.
4. This device has the function of night viewing. In the dark, the IR will be enabled and the image is more clearly.

CONNECTION OF CAMERA 4

Connection of camera 4 is done using the adapter Cargo 160603.

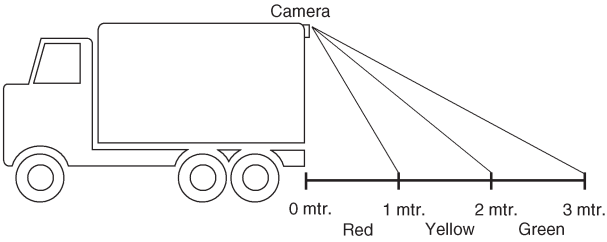
Yellow RCA jack to VIDEO IN.
White RCA jack to AUDIO IN.

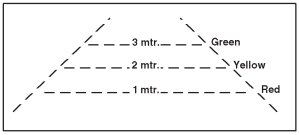
Furthermore **12 V / GND** is connected to the camera via the red and black leads of the adapter.

CAUTION

1. Adjust the camera angle so that the rear bumper or the rear end of the vehicle is visible on the monitor (at the bottom brim of the view).
2. To prevent vibration, be sure to install the camera in a position at which it can be installed securely. Take the necessary measures for reinforcement if there is no place the camera can be installed securely.
3. **Note** that there will be blind spots if the camera is installed on the rear bumper, step, or in other low position. Avoid installing the camera in places where the lens can be easily get dirty from mud, exhaust gases, etc.
4. Be sure to waterproof the holes used to install the camera mounting bracket on the car, the bolts, and the cable holes.

VEHICLE INSTALLATION:

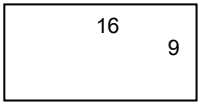




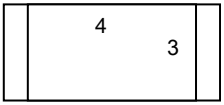
1. Install camera R (for rear view).
2. Use a measuring tool to mark out the distance behind the vehicle.
3. Adjust the viewing angle of the camera so that the distance gauge shown from the TFT match to the distance behind the vehicle.

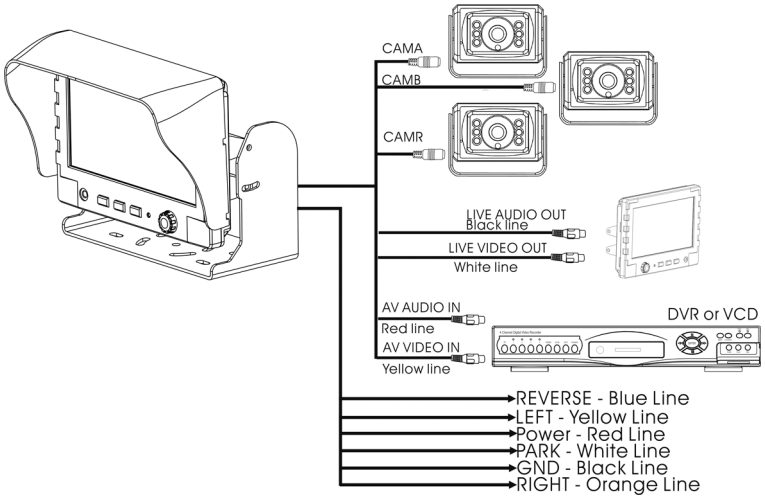
Switch to Rear view with source button, the screen always display on 16:9
While rear viewing, the screen always display on 4:3 to correct size percentage

SOURCE button:



Rear viewing:

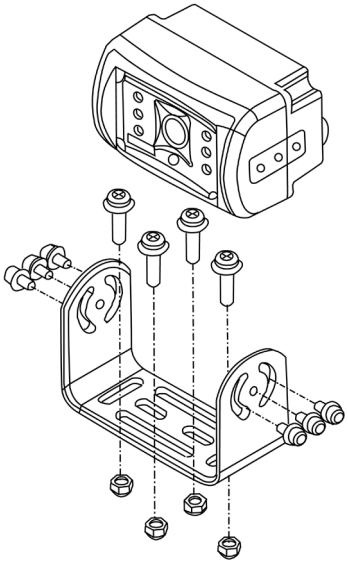




MONITOR SPECIFICATIONS:

Screen size	7" (Diagonal) 16:9.
Active area	154.08 x 86.58 mm.
Pixel configuration	0.107 x 0.370.
Resolution	1440 x 234.
Viewing angle	60°.
Power source	DC 9.6 V. ~ DC 32 V.
Contrast ratio	300:1.*
Brightness	450 cd/cm².*
Input Interface	
Composite connector	RCA.
Input signal	1 Vpp.
Impedance	75 Ω.
Camera	
Connector	6 pin mini din.
Input video signal level	1 Vpp.
Impedance	75 Ω.
Input audio signal level	1 Vpp.
Power output	DC 12 V. 350 mAmp.
AV Audio In	
Connector	RCA.
Input signal level	1Vpp.
Impedance	75 Ω.
Output Interface	
Composite	Life video out.
Connector	RCA.
Input signal level	1Vpp.
Composite	Video Cam out.
Connector	RCA.
Input signal level	1Vpp.
Impedance	75 Ω.
Audio Live Out	
Connector	RCA.
Input signal level	1Vpp.
Impedance	1 KΩ.
Weight	Nt. 1.79 kg. Br. 2.2 kg.
Dimension	L: 191 mm. H: 140 mm. D: 51 mm.
Environmental	
Operation temp.	-10C°~70C°.
Storage temperatur	-30C°~80C°.
Humidity	20%~80%.

* The brightness and contrast ratio are from panel specification.
Design and specification are subject to change without notice VH 1.0.

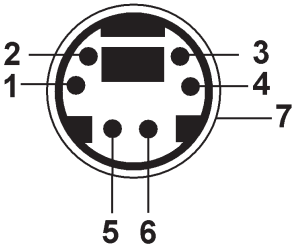


Camera Mirror (M) / Normal (N) adjustment

For mirror function -
Turn arrow to M.

For normal function -
Turn arrow to N.

Camera Harness:



Pin No.	Part description
1	GND
2	Video output
3	Power DC 12
4	Audio output
5	Normal / mirror
6	GND
7	GND

CAMERA SPECIFICATIONS

Pick-up Device	1/3" image sensor interline transfer CCD
Image Size	4.82 x 3.64 mm.
Elements	NTSC / EIA: 510 (H) x 492(V) PAL / CCIR: 500 (H) x 582(V)
Horizontal Resolution	More than 380 TV lines
Shutter Control	NTSC 1/60-1/100.000 sec. PAL 1/50-1/100.000 sec.
Scanning System	2:1 Interlace
Synchronization	Internal
S/N Ratio	More than 48dB (AGC OFF)
Gain Control	AUTO
Sensitivity	0.5 lux / F2.0
Video Output	Composite 1.0 Vp-p / 75 ohm
Power Consumption	2 W. (max.)
Dimensions	62 mm.(D) x 104.6 mm.(W) x 62 mm.(H)
Weight (per unit)	650 g.
Synchro	NTSC / EIA: H: 15.750 KHZ V: 60 Hz PAL / CCIR: H: 15.625 KHZ V: 50 Hz
DC Power Source	DC 12 V.
Board Lens Mount	2.5 mm. / F 2.0
IR	IR LED 850 nm Auto Control by CDS
Operation Temperature	-20 to 50° C.
Storage Temperature	-20 to 70° C.

ACCESSORIES:

160796
Camera w/ infrared LED's for night vision.
Wide view angle, 112° horizontal, 91° vertical, 156° diagonal.

170942
Magnet w/ metalbase for cameras.

160663
Trailer cable Kit. W/ 3.5 mtr. coiled cable.

Switch w/ location and function light. ON/OFF.
180206 12 V.
180207 24 V.

Symbolplates for Cargo 180206 and 180207.
181462 Green.
181463 Red.
181464 Camera.

160610
Camera, O.D. 30 mm. L. 70 mm.
Wide view angle, 130° diagonal.

160790
Camera, O.D. 21 mm. L. 40 mm.
Wide view angle, 170° diagonal.

Extension cables.
160672 6 mtr.
160613 10 mtr.
160612 15 mtr.
160611 20 mtr.

160603
Connection cable from 6 PIN MINI DIN to RCA.

160783

Automotive components since 1963